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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

APR 5 1990

Marilyn Hewitt, P.G.
Project Director
Environmental Resources Management, Inc.
855 Springdale Drive
Exton, PA 19341

Re: Eastern Diversified Metals Site

Dear Ms. Hewitt:

Enclosed are EPA's comments on the Feasibility Study Report for the Eastern Diversified Metals Site (Attachment 1). The FS Report is disapproved until these comments are addressed in the FS Report.

Additionally, EPA's comments of January 5, 1990 (Attachment 2) on the RI Report have not been addressed. These comments need to be addressed in their entirety except for the Bioassessment comment. The RI Report is disapproved until these comments are addressed in the RI Report.

With regard to the Bioassessment comment, since the sediments will be removed from the intermittent stream as part of the remedy, the sediment quality technology does not need to be revised. The equilibrium partitioning approach, however, should be used by ERM in the future.

If you have any questions or wish to discuss these comments, please contact me at (215)597-8240.

Sincerely,

Christine Chulick

Christine Chulick
Remedial Project Manager

Attachments

cc: Daekyoo Hwang, FS Manager
David Steele, RI Manager
Terry Thompson, Esq.
Richard Beldner, Esq.
Bruce Rapp
Cecil Rodrigues, Esq.

ATTACHMENT 1

EPA COMMENTS ON FEASIBILITY STUDY REPORT

EASTERN DIVERSIFIED METALS SITE

1. Section 4.3.6.1. The In-Place closure cap design as described in this section is unacceptable. An acceptable cap would require:

. A vegetated top cover 24 inches thick with finished slopes ranging between 3 and 5 percent.

. A 12-inch thick middle drainage layer with a permeability of not less than 10E-02 cm/sec on a minimum 3 percent slope.

. A low permeability bottom layer consisting of a geomembrane overlying a 2-foot thick layer with a permeability of not greater than 10E-07 cm/sec.

The slopes should be flattened to no greater than 2 horizontal to 1 vertical, not 3:1. This is in part to make maintenance of the vegetation safer. In addition, the final design must demonstrate that soil loss from the slopes does not exceed 2 tons/acre/year (USDA Universal Soil Loss Equation).

The cap must also have a middle drainage layer. Elimination of this layer would allow the overlying soil to become saturated and may introduce an instability between the soil and the geomembrane. Saturated soils erode more easily than unsaturated soils. Geodrainage nets may be used instead of granular material for the drainage layer.

The specified 12-inches of bedding soil must have a permeability of not more than 10E-07 cm/sec (clay). The clay is intended to back-up the geomembrane as it is not possible to construct the geomembrane completely without flaws. The amount of leakage through the geomembrane is a function of the permeability of the underlying soil.

Geotextile fabric is necessary between the clay and fluff, between the top soil layer and the drainage layer, and between the granular drainage layer and the geomembrane.

The FS needs to be revised showing these design features for the In-Place Closure alternative and revised cost estimates.

2. It is unclear from the FS what the cost would be for the combination shallow and deep interceptor trench system. Comparison among options whose only difference is whether a shallow only or a shallow and deep system is used yield widely varying costs. This discrepancy needs to be corrected and a separate cost estimate for the shallow and deep system needs to be shown.

3. A separate cost estimate and design scheme for two or more shallow bedrock production wells located near the fluff pile in the

more contaminated area of the plume and reinjection wells should be generated. The production wells would produce a greater percentage of contaminated water than the one deep production well proposed in the FS and would cost less. The reinjection wells would use recovered and treated ground water to preserve the wetland located downgradient.

4. Page 1-48. Lead levels cited (500-1000 mg/l) are attributed to U.S. EPA 1989 in the References. However, both 1989 citations in the References appear unrelated to lead. Additionally, the bioassay methodology cited on p. 1-12 is referenced as coming from an engineering document. Check these and other citations to insure accuracy. Make corrections where necessary.

this was wrong They are going to correct

5. Page 2-16, first full paragraph, third sentence. This sentence needs to be corrected to, "The highest PCB concentration was at SS-24 (240 mg/kg) which is from the soil at the discharge end of the corrugated metal pipe to the southwest of the site". Additionally, the last sentence needs to be changed to, "Other high concentrations detected were present on the northwest side of the pile and in the north drainageway."

They will correct

6. Table 2-2. For trichloroethene, the maximum site related concentration for surface water should be shown: 44 ppb at LS-1. For Chromium, the maximum site related concentration for surface water should be shown: 14 ppb.

Maximum ground water concentrations for Chromium and maximum and average ground water concentrations for Lead exceed ambient water quality standards. These should be indicated with a "Yes" in the appropriate "Exceeds Standard" column.

fixed

Acute and chronic values for the PA Ambient Water Quality Criteria for Lead should be shown for a hardness of 50, just as was shown for the Federal.

will add

7. Page 2-5, Section 2.2.3.1. In light of comment #6, Chromium and Lead should be included in the discussion of potentially applicable Chemical-Specific Potential ARARs.

8. Page 3-22, third full paragraph, last sentence. Either the state name needs to be changed from "Alabama" to "Indiana" or the entire sentence needs to be moved to the first full paragraph on p. 3-23.

Will fix

9. Page 3-26. Delete last sentence. There are capital and O & M costs.

TYPOGRAPHICAL ERRORS

1. Page 1-8, Section 1.4.1.1. Reference to "Plate 1" should read "Plate 2".

2. Page 1-31, fifth bullet, last line. Change "on" to "or".

3. Table 2-2. Chemical name should be "1,1,1-Trichloroethane.

4. Table 2-3, Column "Consideration at the EDM Site", first paragraph, fifth line. Change "fuel" to "fish".

5. Table 2-6. Column "Effectiveness", Page 5 of 6. Spelling of "concentration".

6. Figure 2-2. The concentration for lead at SS-14 should be 1920 mg/kg, not 1100.

7. Page 3-27, second paragraph, line 9. Change "MW-30" to "MW-3/O".

8. Page 3-35, second line. Change "detail" to "detailed".

ATTACHMENT 2

COMMENTS ON SECOND DRAFT RI REPORT, 5 JANUARY 1990

The second draft of the RI report reflects the results of our discussions and addresses EPA's concerns except for the following areas which need further attention:

RI Report

1. Page 1-2, last paragraph. Although an attempt was made to clarify the wording here, it appears that some words were inadvertently omitted, particularly in regard to the northern interior diversion ditch.

2. Page 1-5, 1.3.2, first paragraph. The wording in the last two sentences does not accurately reflect the conclusions of PADER's 1983-84 study and should be deleted. Wording which more accurately reflects DER's conclusions follow: "PADER concluded that an evaluation of the effects of the EDM Site on the Little Schuylkill River (LSR) could not be made due to the prevailing acid mine drainage degradation in this section of the LSR, except as projections of measured concentrations to downstream or clean stream conditions."

3. Page 2-2, top two paragraphs. These paragraphs should mention that a survey for the Eastern Pearlshell was conducted, but none were found. A sentence should also be included which states that ERM did walk over the site, in addition to reviewing the maps, and only a few small emergent wetlands were found.

4. Table 3-1. This table should include as its last item the November 21, 1989 field reconnaissance for wildlife, vegetation, and wetlands, and the aquatic biology survey.

5. Page 3-8, second paragraph. This paragraph should include the information that no organic vapors were detected during OVA screening, as stated during the November 8th meeting.

EA Report

TOXICOLOGY/RISK ASSESSMENT

1. Ingestion Absorption Factor for PCBs and Dioxin. During the November 8th meeting, it was agreed that 30% intestinal absorption could be used as a best estimate of exposure to PCBs and dioxin, but 100% absorption for calculating exposure maxima should be assumed. Although the calculations do reflect this approach, the text and parameter tables also need to be appropriately modified.

2. Table 4-6, Site-Specific Parameters. During the November 8th meeting, ERM agreed to obtain site-specific data justifying the use of 0.51 mg/cm2 as the default dust adherence. The revised EA does not appear to contain these data, or any other additional information on dust adherence. However, the dermal uptake calculations continue to use the original, rather optimistic, assumption. Unless ERM can technically demonstrate that their

assumption is more appropriate than EPA's recommended value of 1.45 mg/cm2 (Superfund Exposure Assessment Manual, 1988), the EPA recommendation should be used.

3. Table 5-1, Toxicological Information. Since IRIS contains no inhalation CPF for BEHP, the oral value should be used (as was done for dioxin and PCBs).

4. Why was toluene treated as a tentatively identified compound rather than as a standard analyte as is usually the case? An explanation should be provided in the RI.

5. Teratogenicity should be included in the toxicity summary since dioxin is part of the endangerment at this site.

6. Page 1-2, top line. The wording here should be changed to match the new wording provided in the RI, i.e., delete "convey" and insert "collect perched water and some" shallow ground water ...

AIR

1. The modeling is satisfactory, however, one aspect regarding the methodology for the subchronic exposure estimates is unclear. Although Table C-4 contains a column marked "Distance Downwind from Source", the report does not clearly indicate that all of the receptors of interest were located directly downwind for this portion of the modeling. This information should be made clear on Table C-4 or in the text of the report.

BIOASSESMENT

1. See Bioassessment, Stream Quality, in "Response to Comments" Section that follows (last page).